FIG. 1

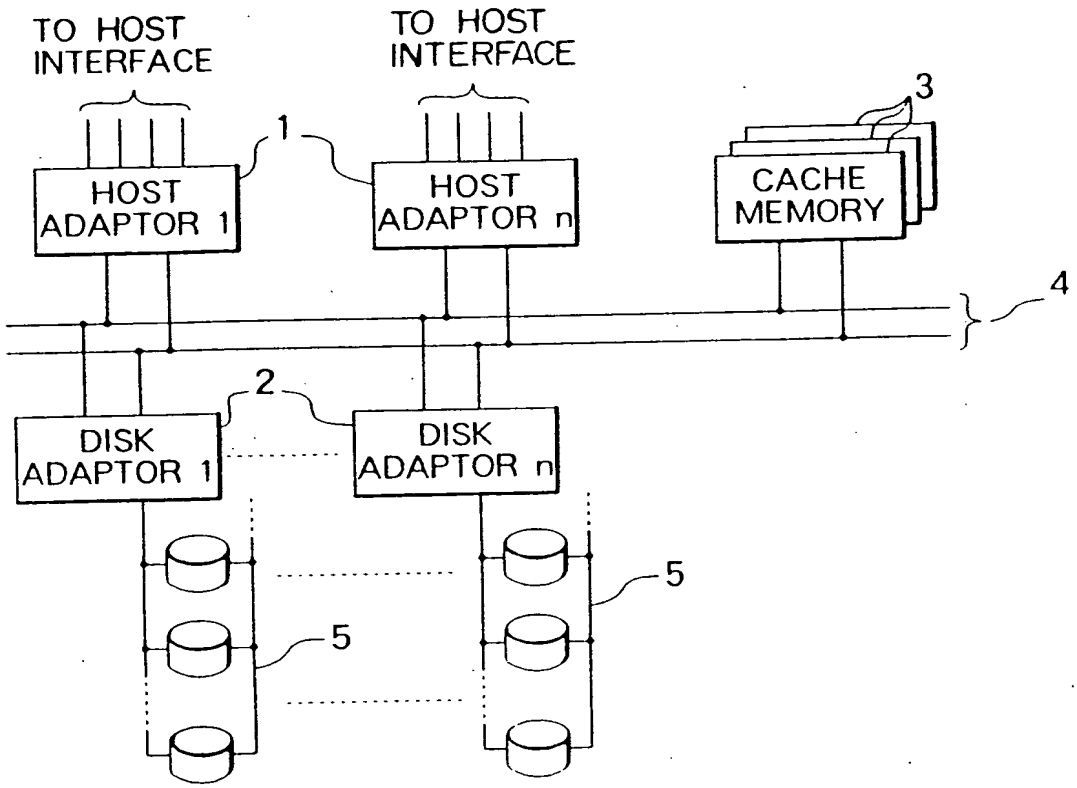
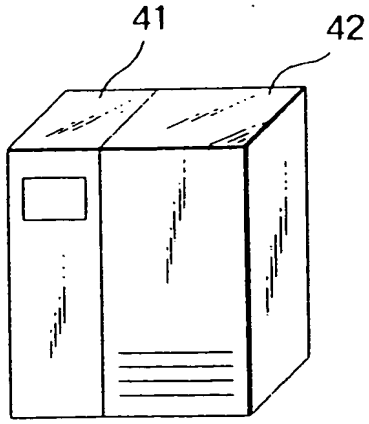

TO HOST INTERFACE
TO HOST INTERFACE
HOST ADAPTOR 1
HOST ADAPTOR n
CACHE MEMORY
DISK ADAPTOR 1
DISK ADAPTOR n
1
2
3
4
5
5

FIG. 4


41
42

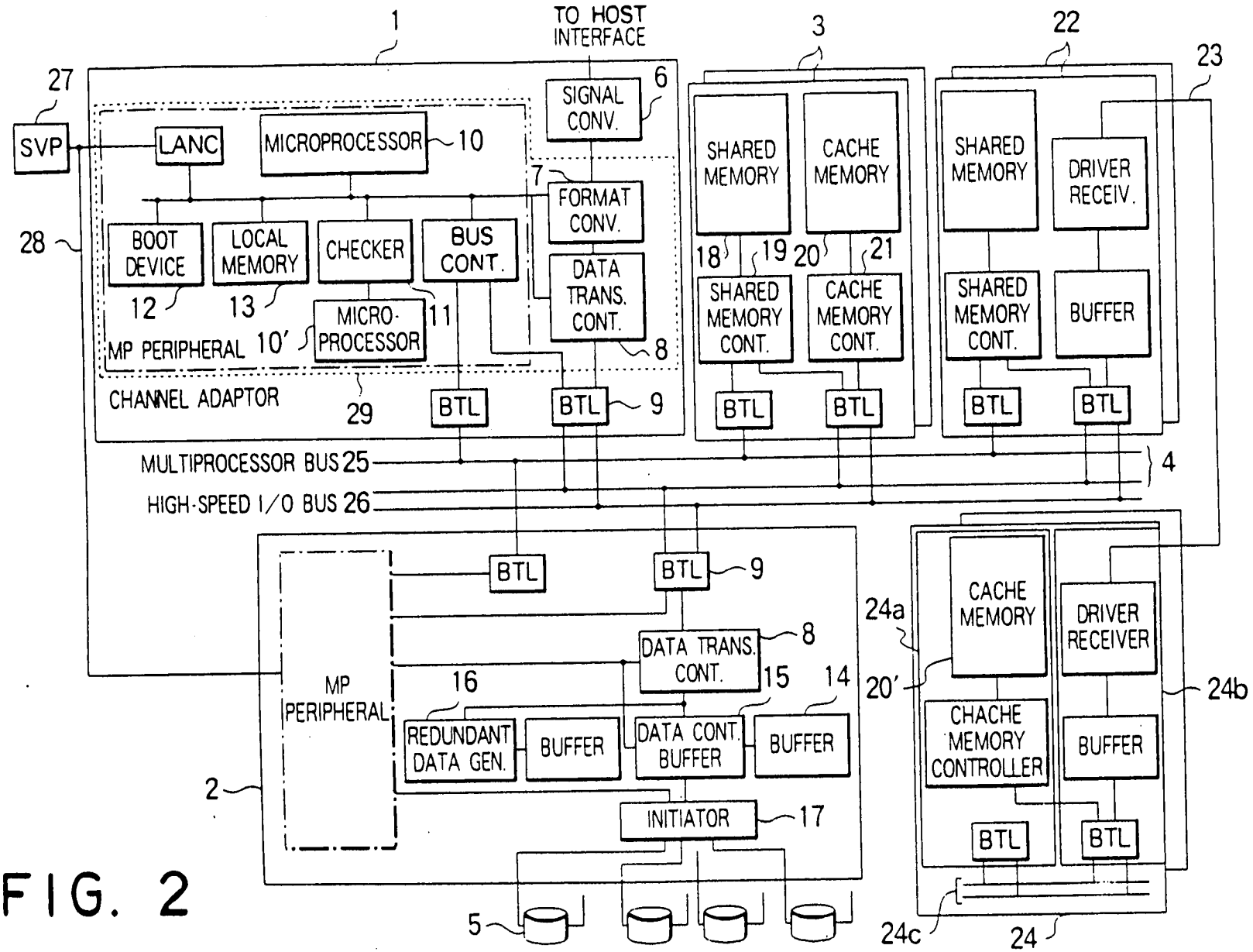

1
TO HOST INTERFACE
3
22
23
27
SVP
LANC
MICROPROCESSOR
10
SIGNAL CONV.
6
7
FORMAT CONV.
28
BOOT DEVICE
LOCAL MEMORY
CHECKER
BUS CONT.
12
13
11
MICRO-PROCESSOR
MP PERIPHERAL
10'
DATA TRANS. CONT.
8
CHANNEL ADAPTOR
29
BTL
BTL
9
SHARED MEMORY
CACHE MEMORY
18
19
20
21
SHARED MEMORY CONT.
CACHE MEMORY CONT.
SHARED MEMORY
DRIVER RECEIV.
SHARED MEMORY CONT.
BUFFER
MULTIPROCESSOR BUS 25
HIGH-SPEED I/O BUS 26
4
MP PERIPHERAL
2
16
15
14
REDUNDANT DATA GEN.
BUFFER
DATA CONT. BUFFER
BUFFER
INITIATOR
17
5
24a
20'
CACHE MEMORY
DRIVER RECEIVER
CHACHE MEMORY CONTROLLER
BUFFER
24b
24c
24

FIG. 2

FIG. 3

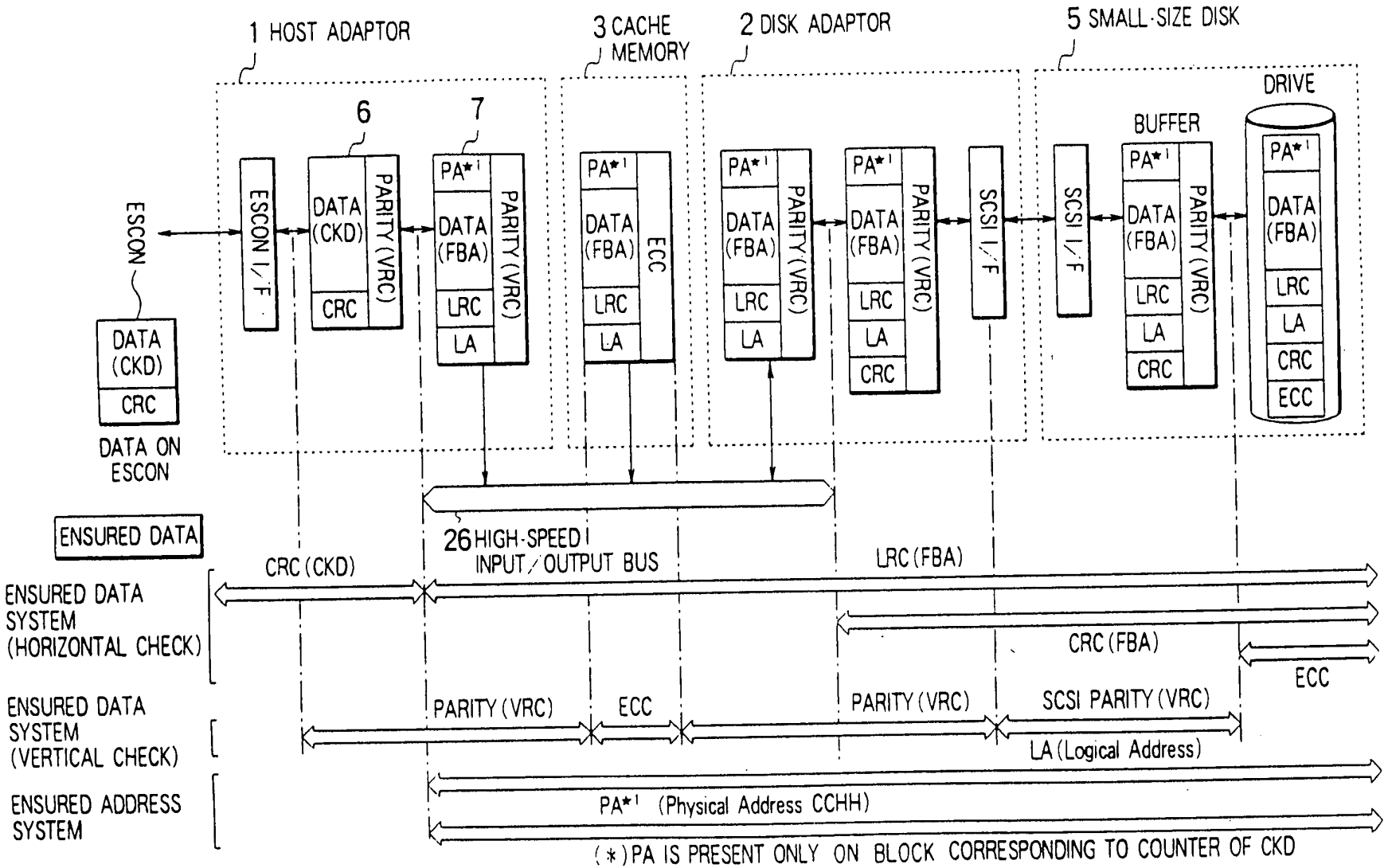

1 HOST ADAPTOR
3 CACHE MEMORY
2 DISK ADAPTOR
5 SMALL-SIZE DISK
6
7
DRIVE
BUFFER
ESCON
ESCON I/F
DATA (CKD)
CRC
PARITY (VRC)
PA*1
DATA (FBA)
LRC
LA
ECC
SCSI I/F
DATA ON ESCON
ENSURED DATA
26 HIGH-SPEED I/O BUS
CRC (CKD)
LRC (FBA)
CRC (FBA)
ECC
ENSURED DATA SYSTEM (HORIZONTAL CHECK)
ENSURED DATA SYSTEM (VERTICAL CHECK)
SCSI PARITY (VRC)
LA (Logical Address)
ENSURED ADDRESS SYSTEM
PA*1 (Physical Address CCHH)
(*) PA IS PRESENT ONLY ON BLOCK CORRESPONDING TO COUNTER OF CKD

FIG. 5A

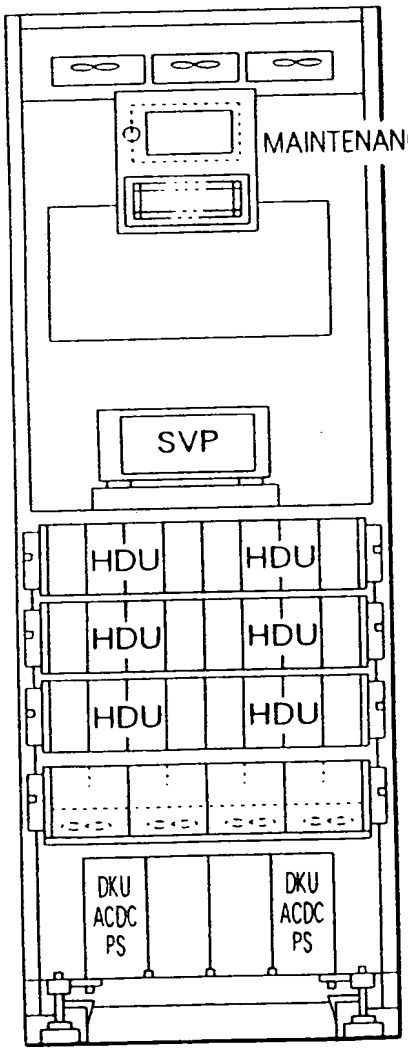

MAINTENANCE PANEL
SVP
HDU
HDU
HDU
HDU
HDU
HDU
DKU ACDC PS
DKU ACDC PS

FIG. 5B

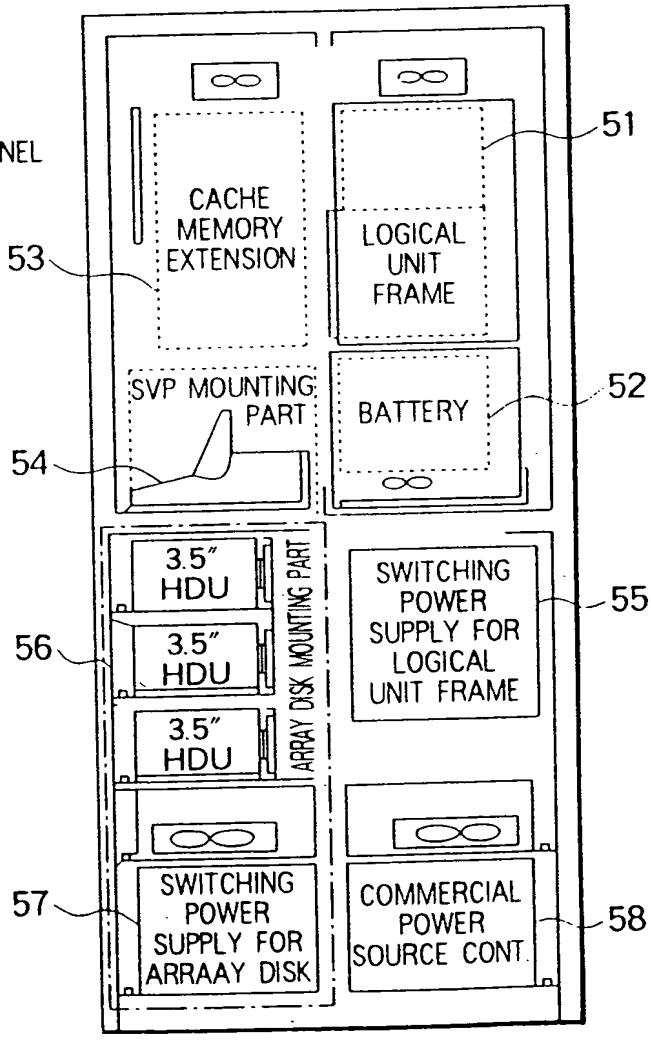
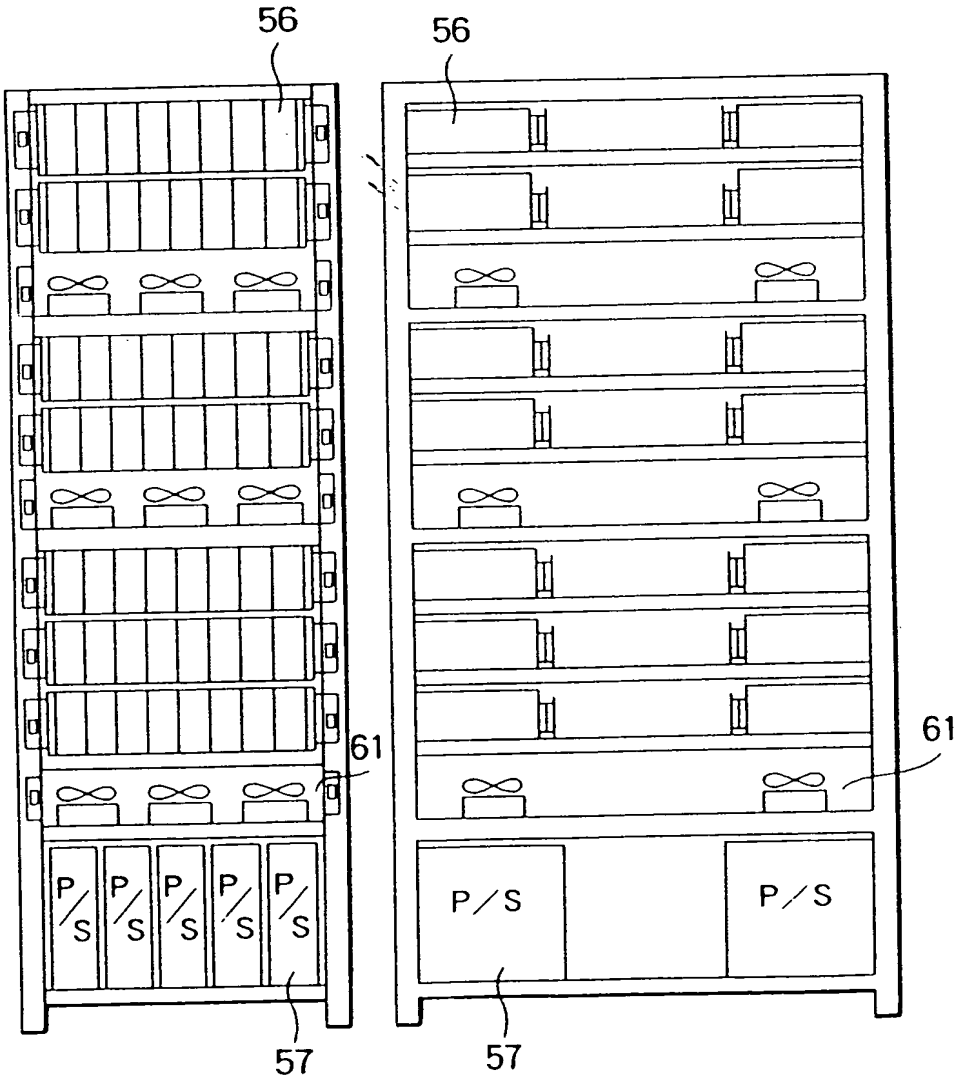

CACHE MEMORY EXTENSION
LOGICAL UNIT FRAME
SVP MOUNTING PART
BATTERY
3.5" HDU
3.5" HDU
3.5" HDU
ARRAY DISK MOUNTING PART
SWITCHING POWER SUPPLY FOR LOGICAL UNIT FRAME
SWITCHING POWER SUPPLY FOR ARRAAY DISK
COMMERCIAL POWER SOURCE CONT
51
52
53
54
55
56
57
58

FIG. 6A FIG. 6B



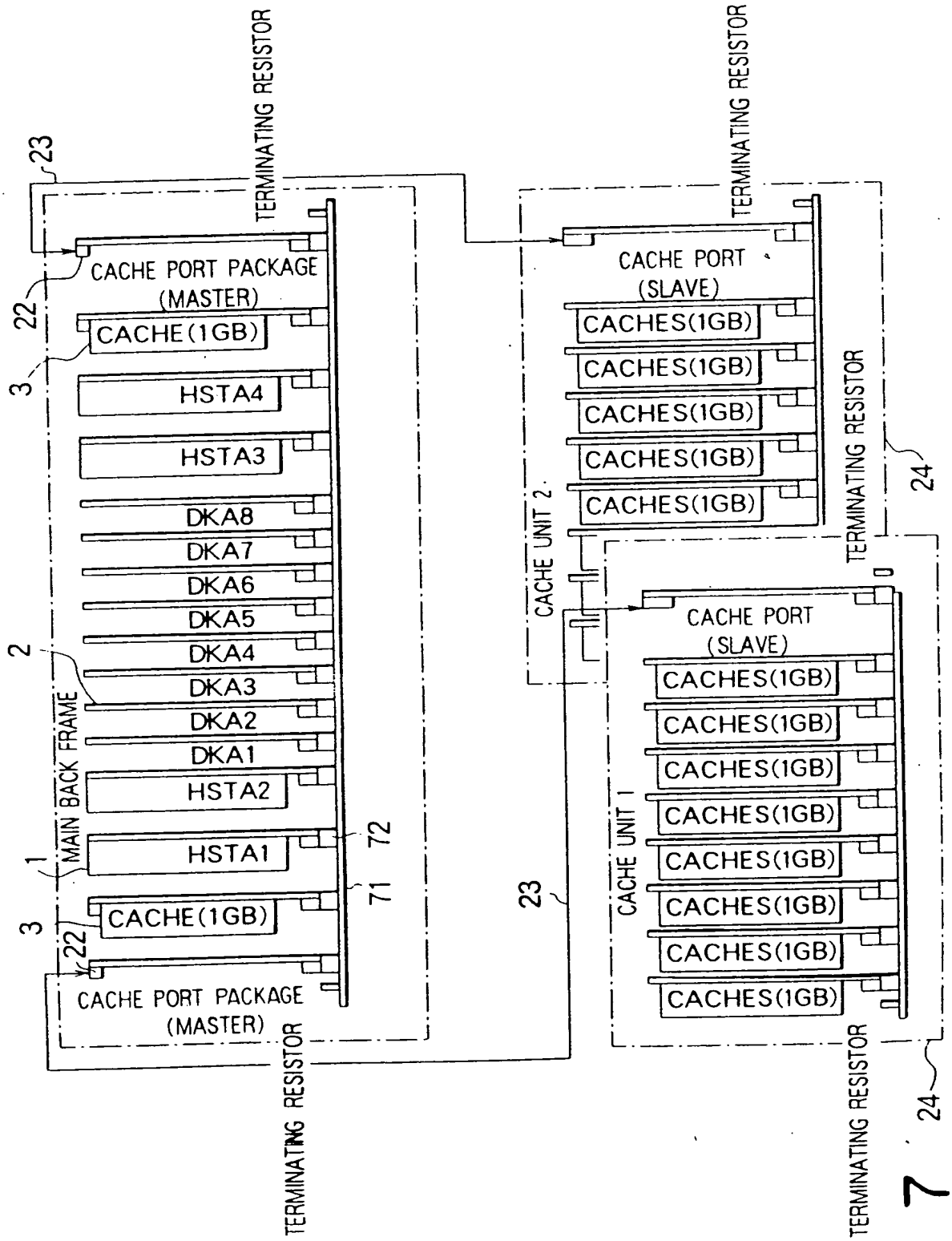
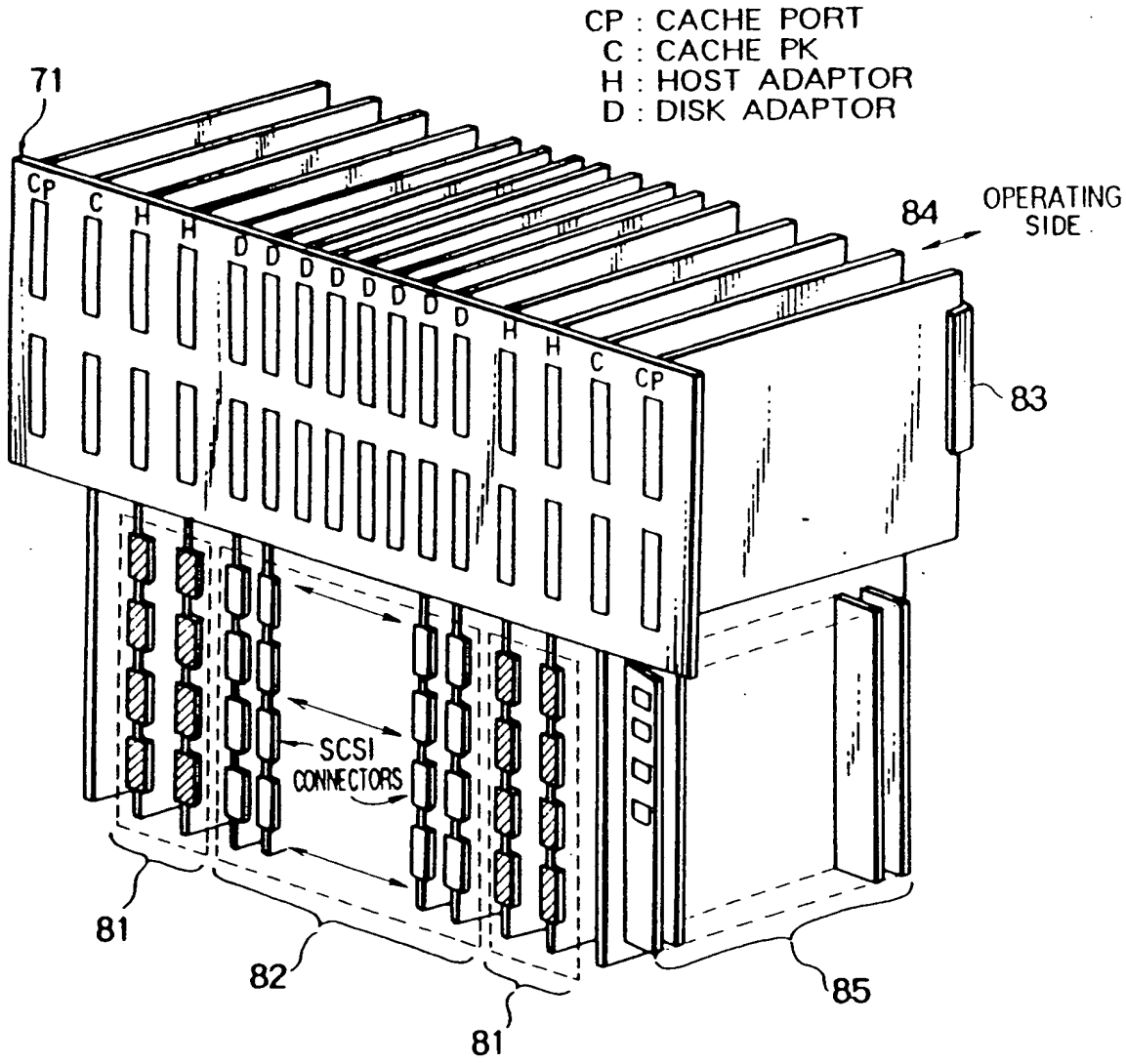

TERMINATING RESISTOR
23
CACHE PORT PACKAGE
(MASTER)
22
CACHE(1GB)
3
HSTA4
HSTA3
DKA8
DKA7
DKA6
DKA5
DKA4
DKA3
DKA2
DKA1
HSTA2
HSTA1
2
MAIN BACK FRAME
1
71
72
3
CACHE(1GB)
22
CACHE PORT PACKAGE
(MASTER)
TERMINATING RESISTOR
23
TERMINATING RESISTOR
CACHE PORT
(SLAVE)
CACHES(1GB)
CACHES(1GB)
CACHES(1GB)
CACHES(1GB)
CACHES(1GB)
CACHE UNIT 2
TERMINATING RESISTOR
24
CACHE PORT
(SLAVE)
CACHES(1GB)
CACHES(1GB)
CACHES(1GB)
CACHES(1GB)
CACHES(1GB)
CACHES(1GB)
CACHES(1GB)
CACHES(1GB)
CACHE UNIT 1
TERMINATING RESISTOR
24

FIG. 7

FIG. 8


CP : CACHE PORT
C : CACHE PK
H : HOST ADAPTOR
D : DISK ADAPTOR
71
CP
C
H
H
D
D
D
D
D
D
D
D
H
H
C
CP
84
OPERATING SIDE
83
SCSI CONNECTORS
81
82
81
85

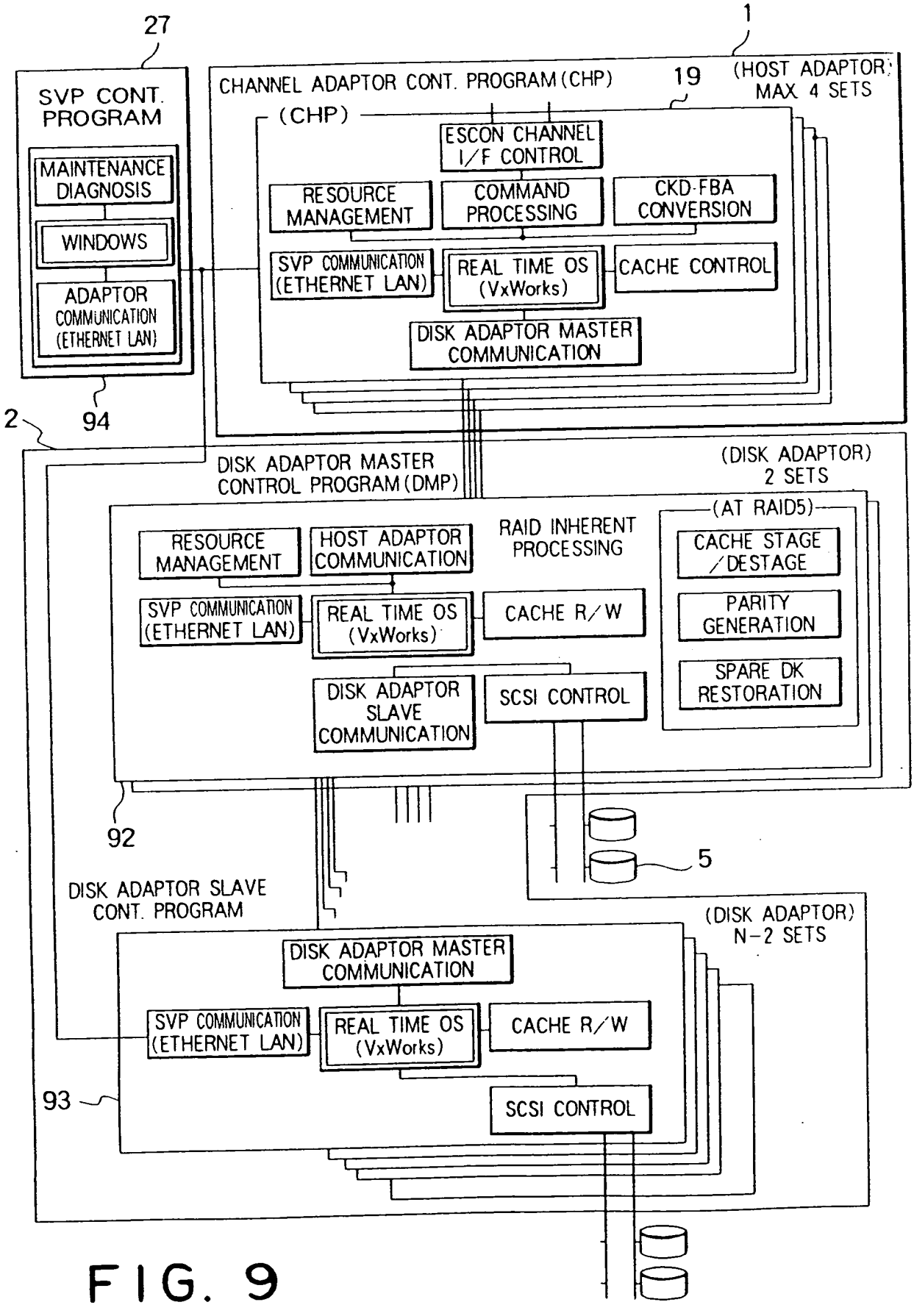

27
SVP CONT. PROGRAM
MAINTENANCE DIAGNOSIS
WINDOWS
ADAPTOR COMMUNICATION (ETHERNET LAN)
94
1
CHANNEL ADAPTOR CONT. PROGRAM (CHP)
19
(HOST ADAPTOR) MAX. 4 SETS
(CHP)
ESCON CHANNEL I/F CONTROL
RESOURCE MANAGEMENT
COMMAND PROCESSING
CKD-FBA CONVERSION
SVP COMMUNICATION (ETHERNET LAN)
REAL TIME OS (VxWorks)
CACHE CONTROL
DISK ADAPTOR MASTER COMMUNICATION
2
DISK ADAPTOR MASTER CONTROL PROGRAM (DMP)
(DISK ADAPTOR) 2 SETS
(AT RAID5)
RESOURCE MANAGEMENT
HOST ADAPTOR COMMUNICATION
RAID INHERENT PROCESSING
CACHE STAGE /DESTAGE
PARITY GENERATION
SPARE DK RESTORATION
SVP COMMUNICATION (ETHERNET LAN)
REAL TIME OS (VxWorks)
CACHE R/W
DISK ADAPTOR SLAVE COMMUNICATION
SCSI CONTROL
92
5
DISK ADAPTOR SLAVE CONT. PROGRAM
(DISK ADAPTOR) N-2 SETS
DISK ADAPTOR MASTER COMMUNICATION
SVP COMMUNICATION (ETHERNET LAN)
REAL TIME OS (VxWorks)
CACHE R/W
SCSI CONTROL
93

FIG. 9

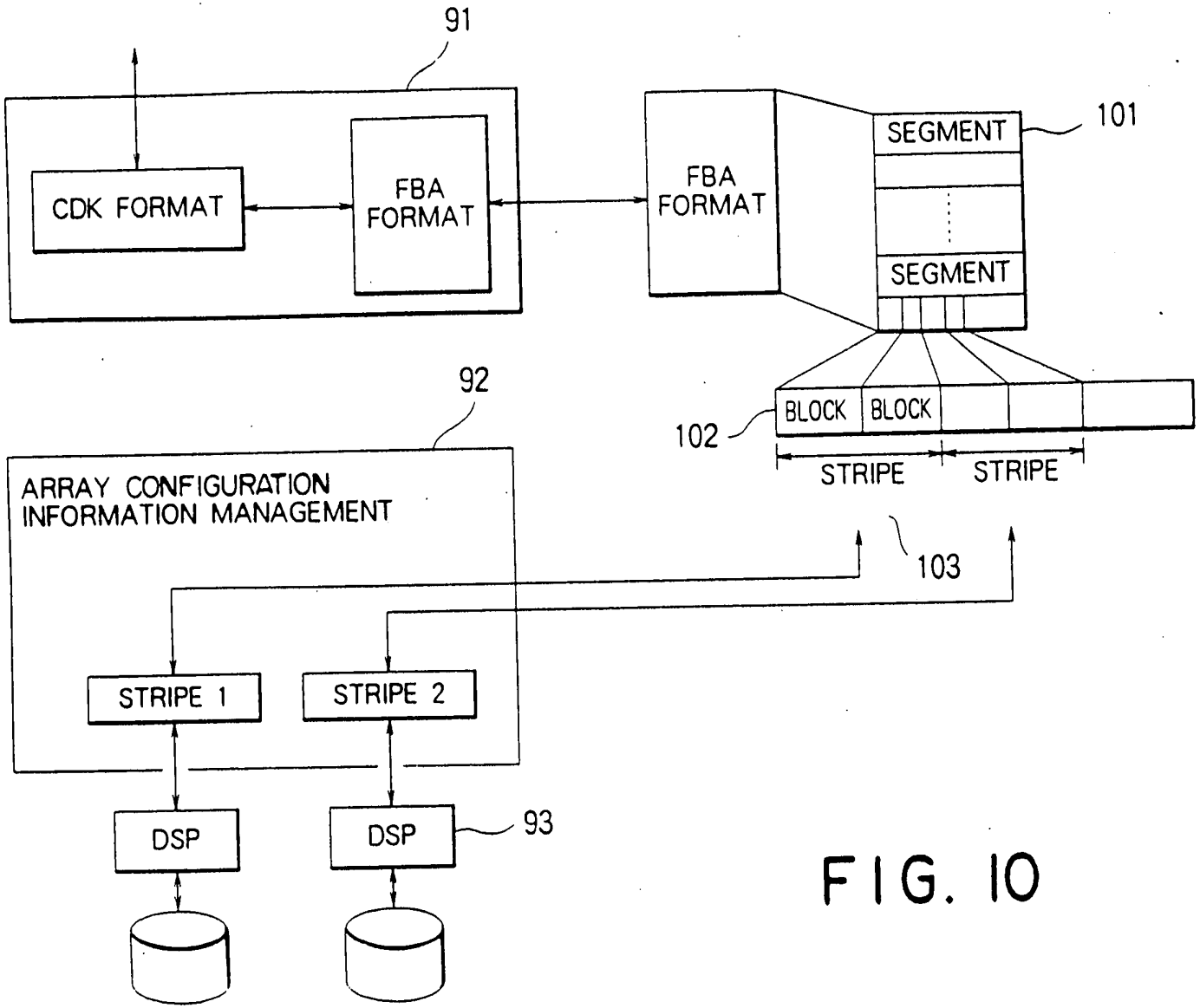

91
CDK FORMAT
FBA FORMAT
FBA FORMAT
SEGMENT
101
SEGMENT
92
102
BLOCK
BLOCK
STRIPE
STRIPE
ARRAY CONFIGURATION INFORMATION MANAGEMENT
103
STRIPE 1
STRIPE 2
DSP
DSP
93

FIG. 10

FUJITSU 3062000

FIG. 11A

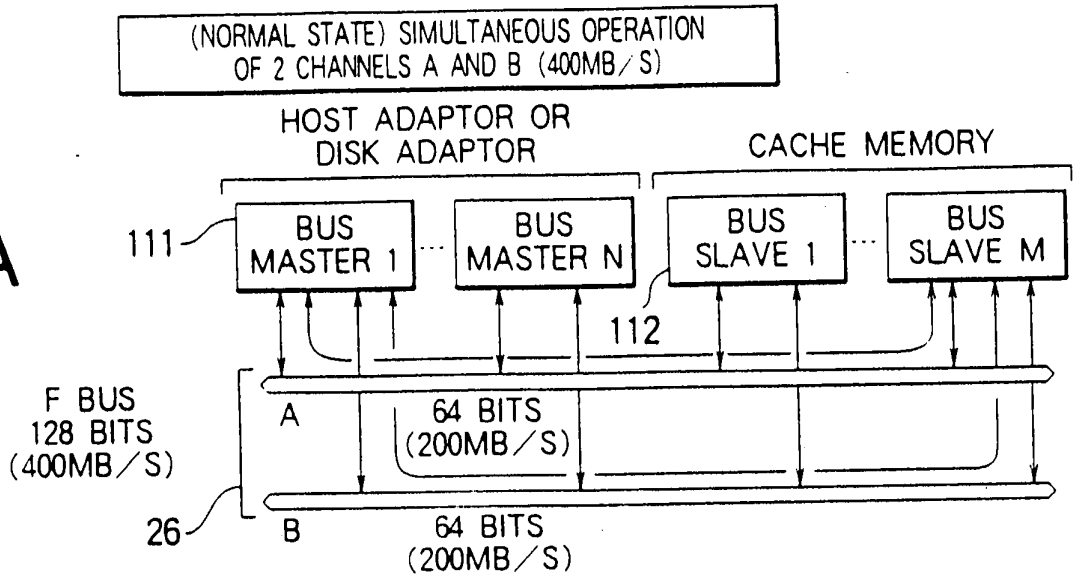
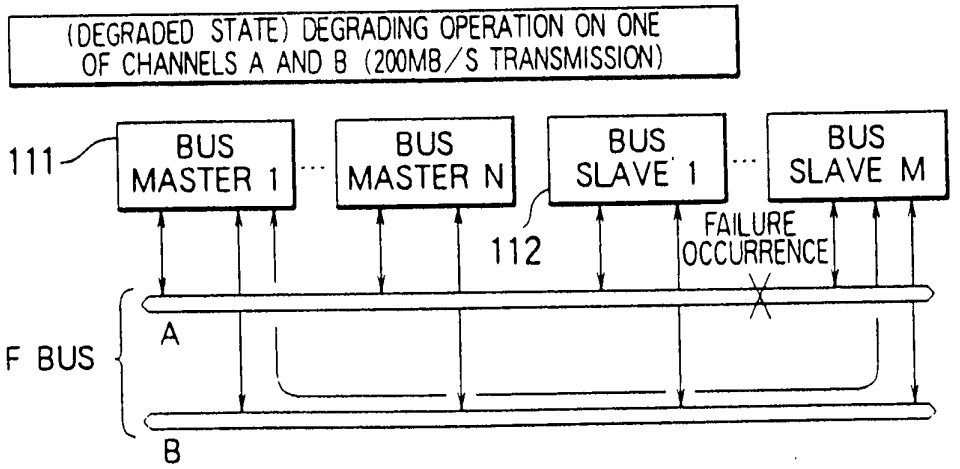


FIG. 11B



FUJITSU-0002000

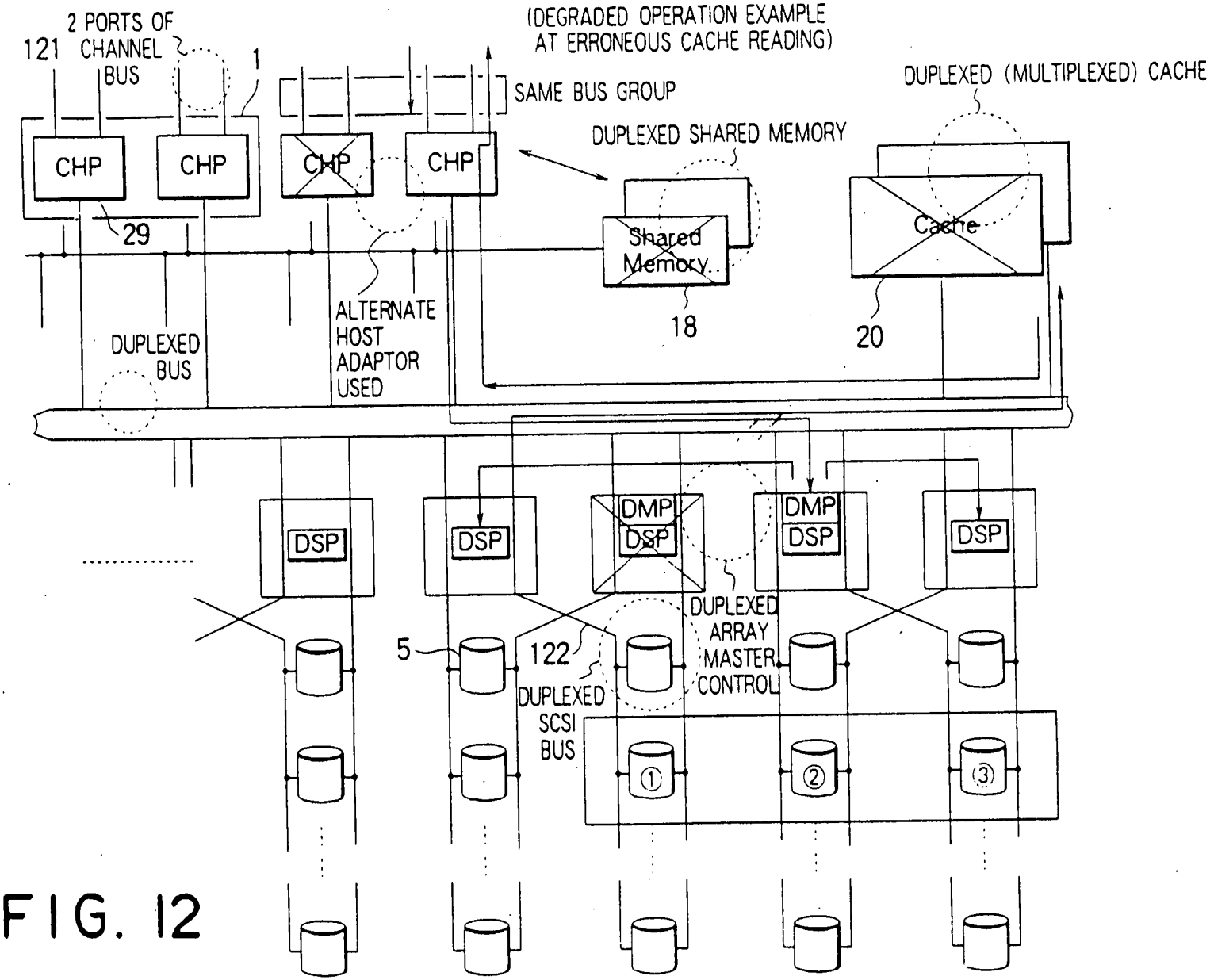


FIG. 12

FIG. 13

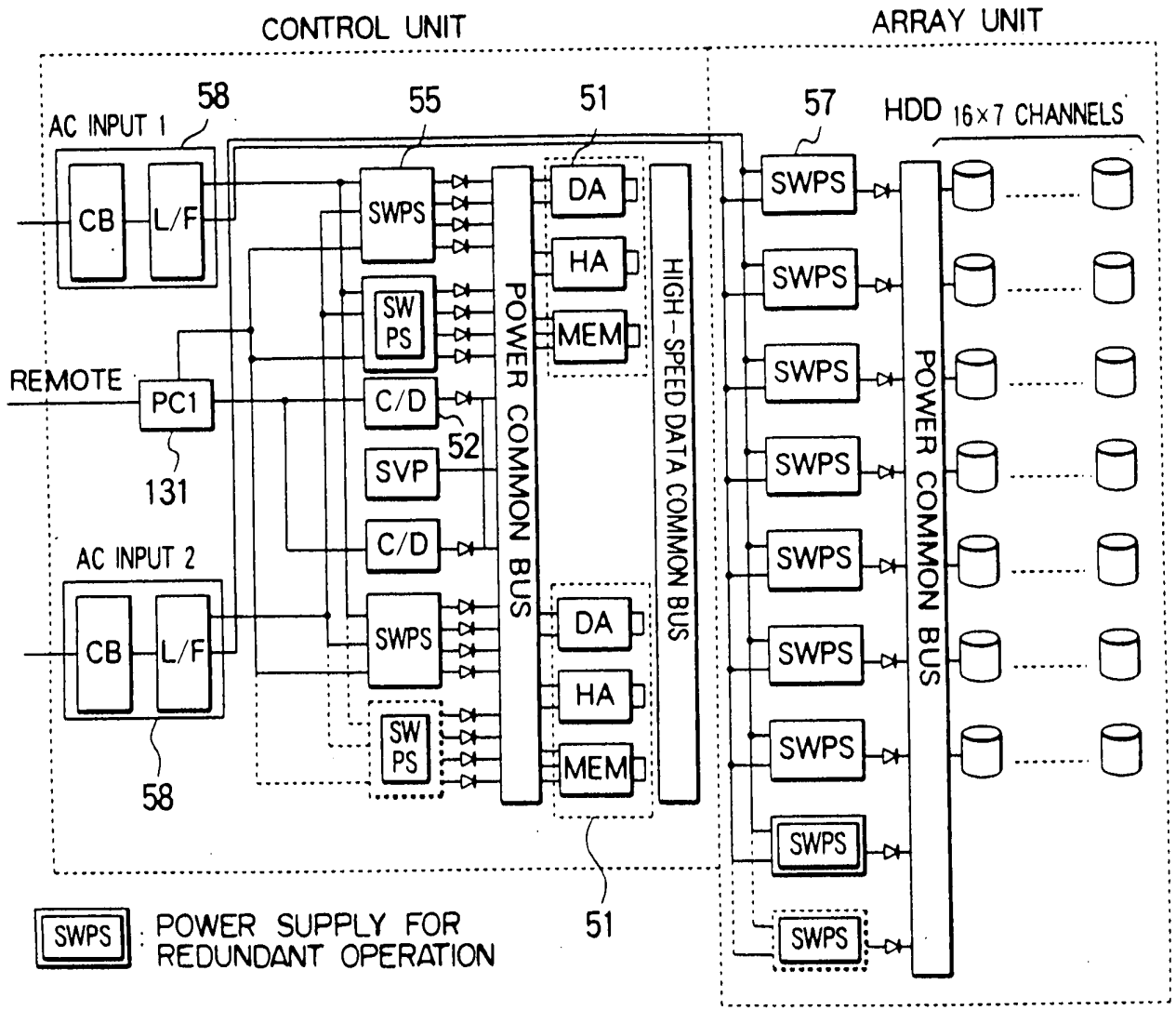

CONTROL UNIT
ARRAY UNIT
AC INPUT 1
58
55
51
57
HDD 16×7 CHANNELS
CB
L/F
SWPS
SW PS
C/D
SVP
DA
HA
MEM
POWER COMMON BUS
HIGH-SPEED DATA COMMON BUS
REMOTE
PC1
131
52
AC INPUT 2
58
SWPS : POWER SUPPLY FOR REDUNDANT OPERATION
51

FIG. 14

ITEM NUMBER	SINGLE MAGNETIC DISK CAPACITY	ARRAY CONFIGURATION	ARRAY CAPACITY
141	3.0 GB (3.5 INCH)	(14D+2)×5	APPROX. 220GB
142	4.0 GB (5 INCH)	(14D+2)×4	
143	8.4 GB (6.4 INCH)	(14D+2)×2	

FIG. 15

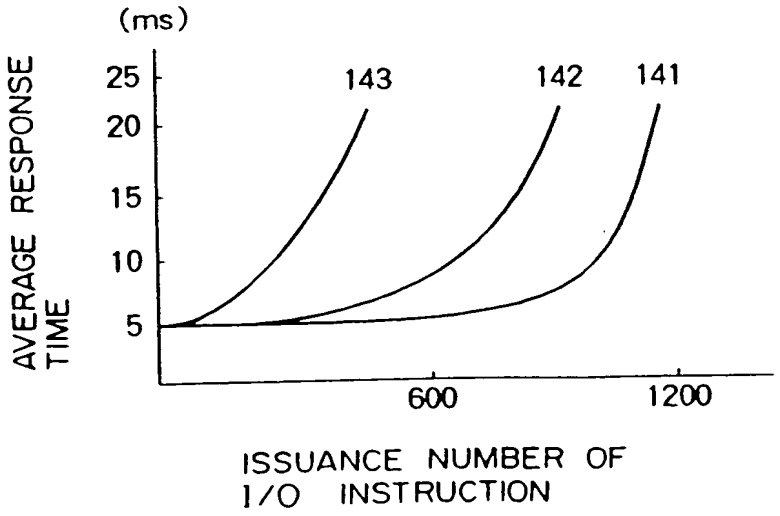


FIG. 16

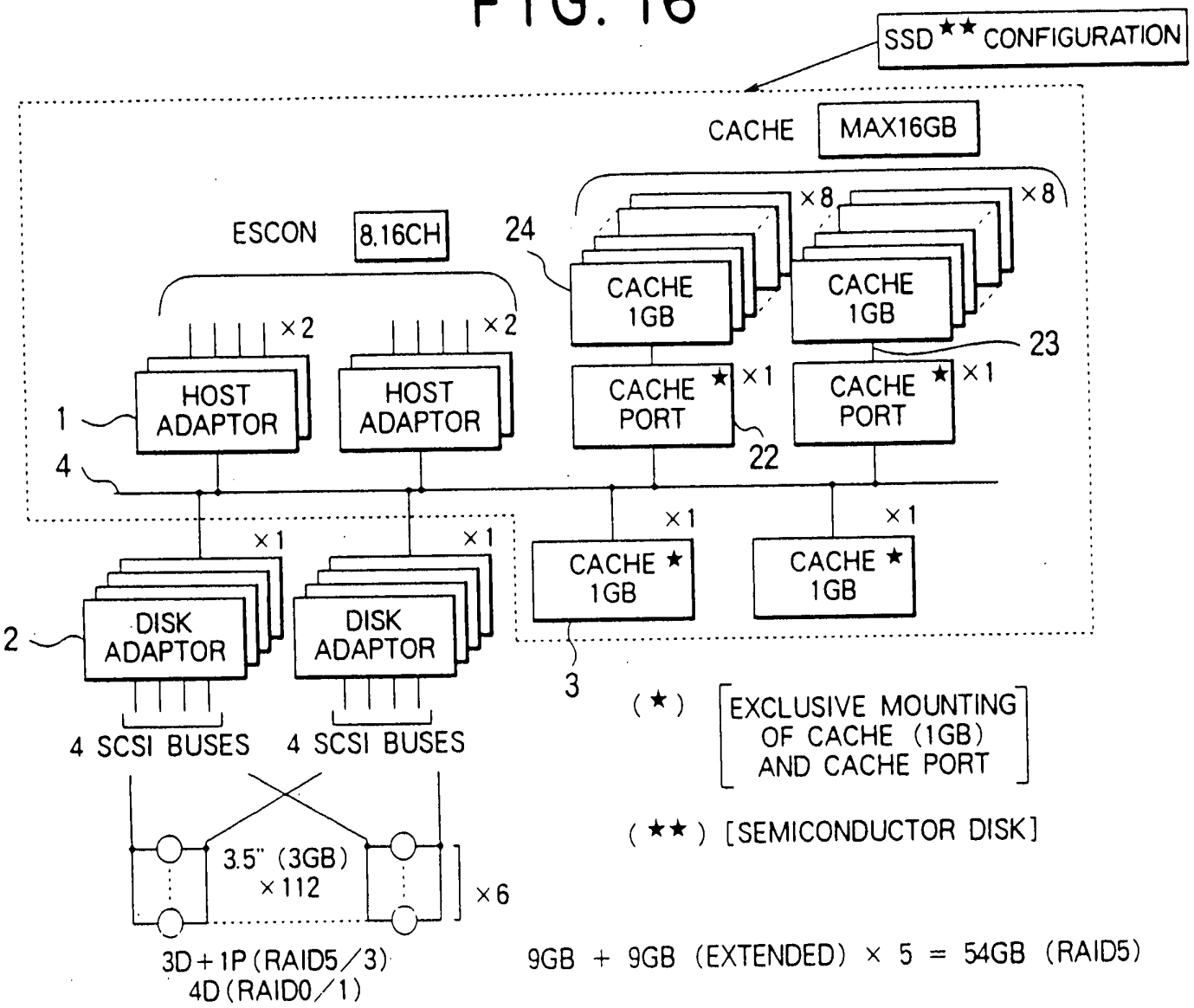

SSD ★★ CONFIGURATION
CACHE MAX16GB
ESCON 8.16CH
24
×8
×8
CACHE 1GB
CACHE 1GB
23
×2
×2
HOST ADAPTOR
HOST ADAPTOR
1
CACHE PORT ★
×1
CACHE PORT ★
×1
22
4
×1
×1
CACHE ★ 1GB
CACHE ★ 1GB
DISK ADAPTOR
DISK ADAPTOR
2
3
4 SCSI BUSES
4 SCSI BUSES
3.5" (3GB) ×112
×6
3D+1P (RAID5/3)
4D (RAID0/1)
(★) [EXCLUSIVE MOUNTING OF CACHE (1GB) AND CACHE PORT]
(★★) [SEMICONDUCTOR DISK]
9GB + 9GB (EXTENDED) × 5 = 54GB (RAID5)

FIG. 17

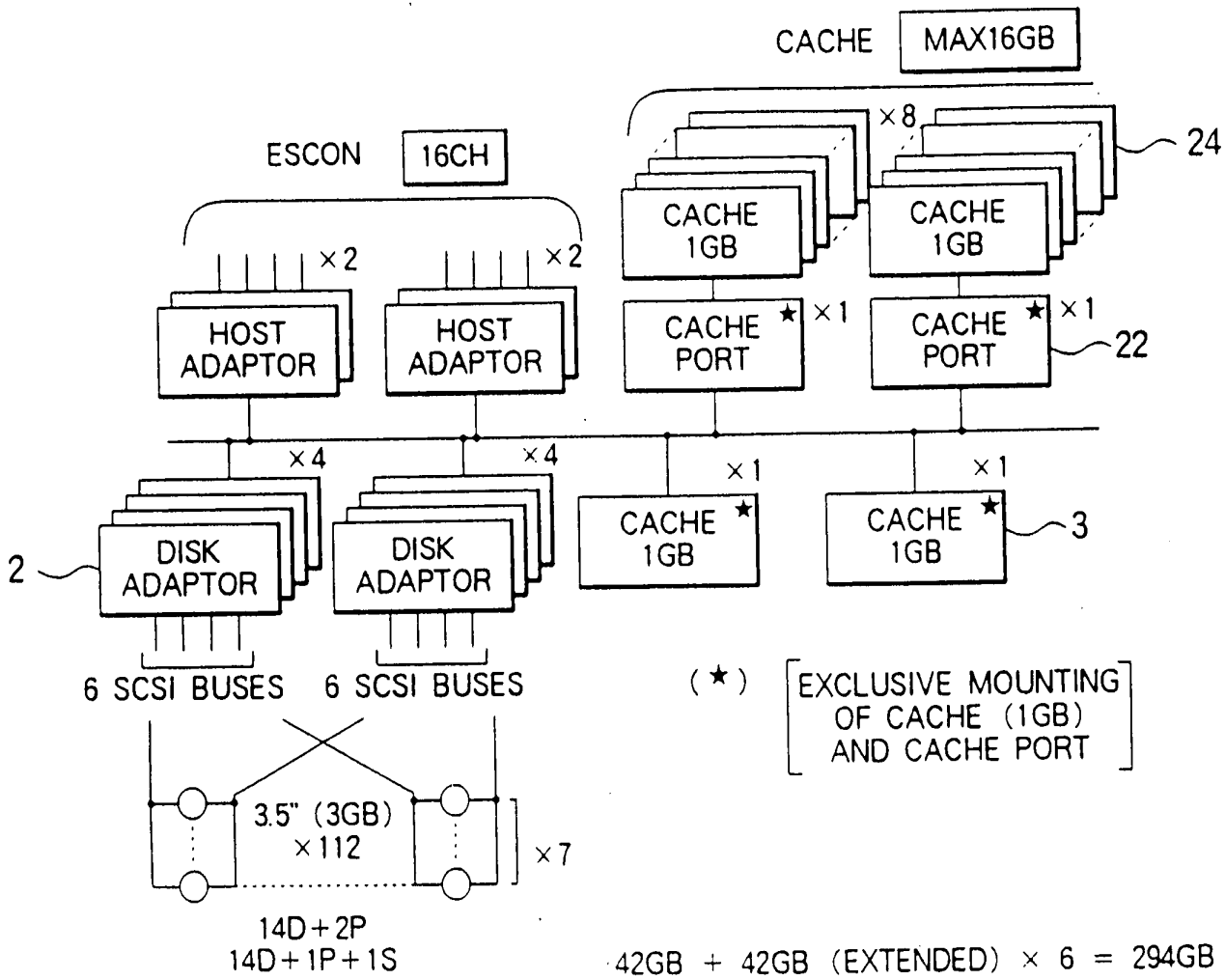

CACHE
MAX16GB
ESCON
16CH
×8
24
CACHE 1GB
CACHE 1GB
×2
×2
HOST ADAPTOR
HOST ADAPTOR
CACHE PORT
CACHE PORT
×1
×1
22
×4
×4
×1
×1
2
DISK ADAPTOR
DISK ADAPTOR
CACHE 1GB
CACHE 1GB
3
6 SCSI BUSES
6 SCSI BUSES
(★) [EXCLUSIVE MOUNTING OF CACHE (1GB) AND CACHE PORT]
3.5" (3GB) ×112
×7
14D+2P
14D+1P+1S
42GB + 42GB (EXTENDED) × 6 = 294GB

FIG. 18

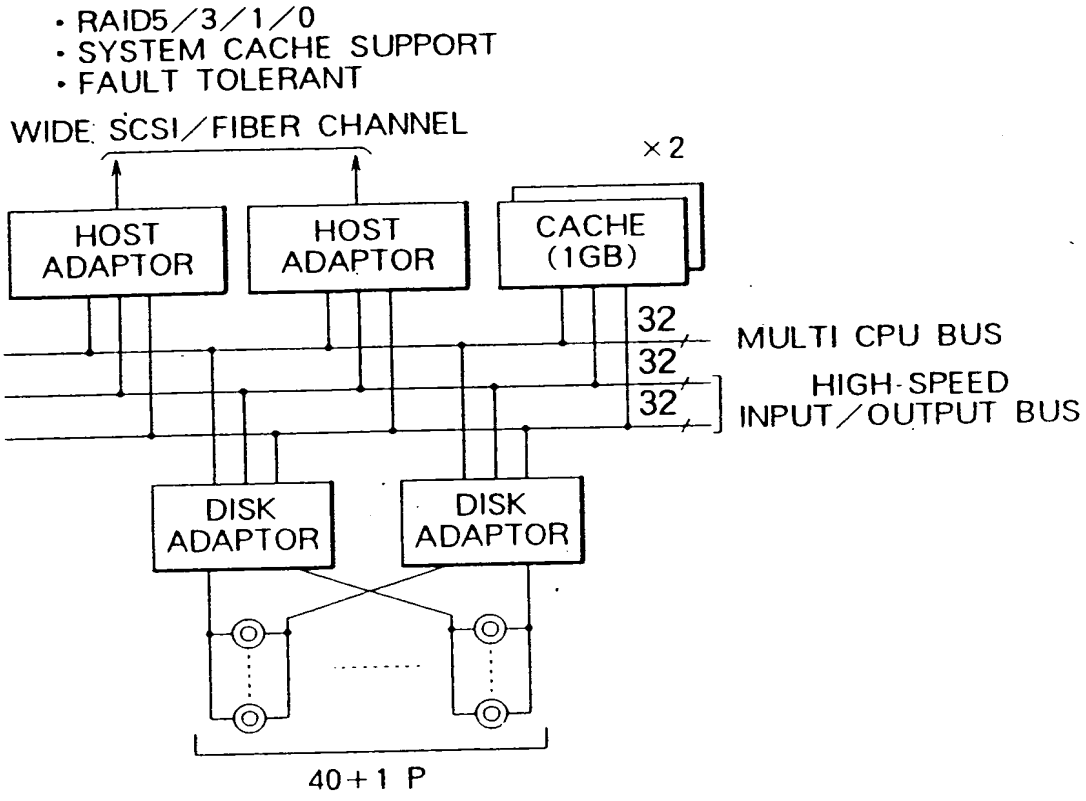

• RAID5/3/1/0
• SYSTEM CACHE SUPPORT
• FAULT TOLERANT
WIDE SCSI/FIBER CHANNEL
×2
HOST ADAPTOR
HOST ADAPTOR
CACHE (1GB)
32
32
32
MULTI CPU BUS
HIGH-SPEED INPUT/OUTPUT BUS
DISK ADAPTOR
DISK ADAPTOR
40+1 P

FIG. 19

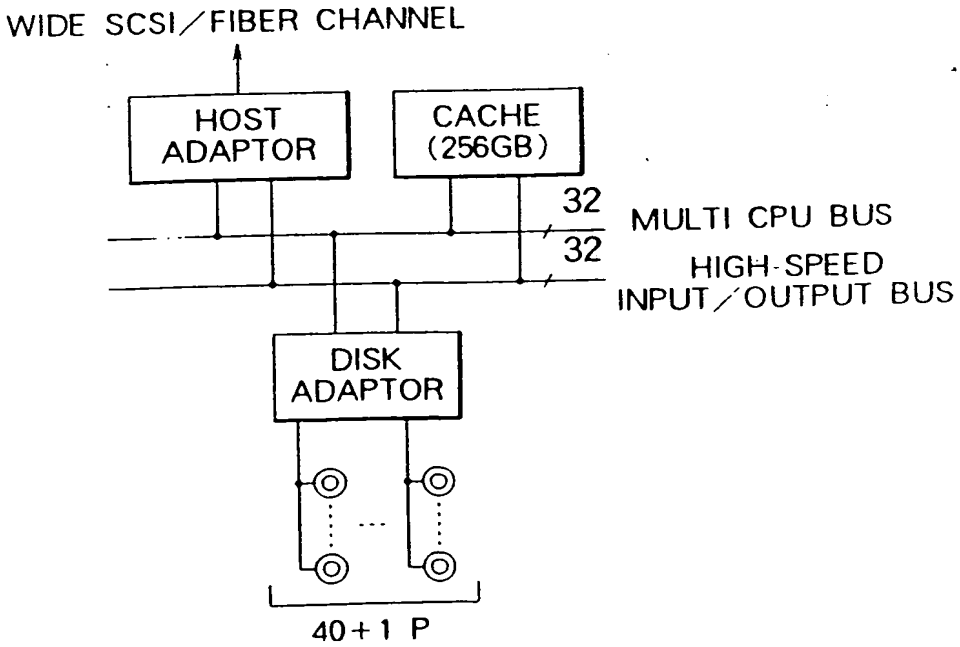
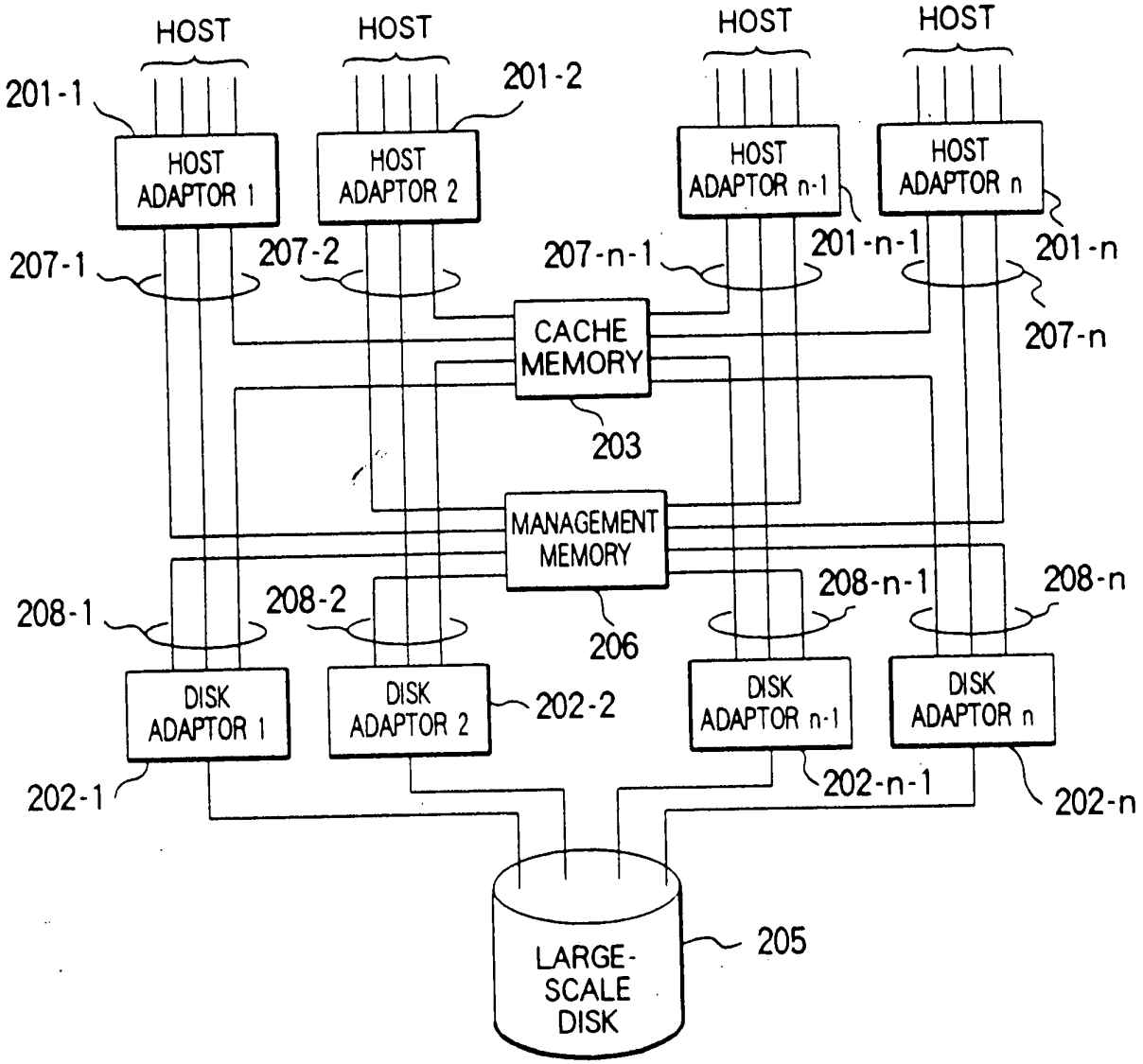

WIDE SCSI/FIBER CHANNEL
HOST ADAPTOR
CACHE (256GB)
32
32
MULTI CPU BUS
HIGH-SPEED INPUT/OUTPUT BUS
DISK ADAPTOR
40+1 P

FIG. 20


HOST
HOST
HOST
HOST
201-1
201-2
HOST ADAPTOR 1
HOST ADAPTOR 2
HOST ADAPTOR n-1
HOST ADAPTOR n
207-1
207-2
207-n-1
201-n-1
201-n
207-n
CACHE MEMORY
203
MANAGEMENT MEMORY
206
208-1
208-2
208-n-1
208-n
DISK ADAPTOR 1
DISK ADAPTOR 2
DISK ADAPTOR n-1
DISK ADAPTOR n
202-1
202-2
202-n-1
202-n
LARGE-SCALE DISK
205